

SIXPENCE

FEBRUARY 1943

# AMATEUR RADIO

THE  
OFFICIAL ORGAN  
OF THE  
WIRELESS INSTITUTE  
OF  
AUSTRALIA



Published by the Victorian Division

# AMATEUR-RADIO

INCORPORATING THE N.S.W. DIVISIONAL BULLETIN

Vol. 11. No. 2

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## VOLUME EXPANSION

Generally speaking, back in the days when the boys were pleased as long as they got 100% modulation with good quality speech, they did not become very interested in volume expansion or AF amplifier curves.

However, as now together with other things RF is off the market, here is a very absorbing and worth while field of activity and as yet is practically virgin ground.

The advantages offered by a single straight expanding unit as in Fig 1 are:- (1) A much more realistic reproduction of recorded music (particularly orchestral) either from receiver or through the pick-up, and by very careful adjustment the practical elimination of receiver background and pick-up needle scratch/.

In the adjustment of expanders three effects are to be taken care of:- (1) Time delay, controlled by the condenser and resistor in the rectified AF circuits. If the delay is too long, it greatly affects vocal reproduction, and if too short gives a harsh or blasting sound. (2) Percentage of expansion controlled by grid input to expander amplifier stage. (3) Bias of controlled amplifier to be adjusted so that there is no gain without DC is supplied by rectified AF from expander circuit. Thus the controlled amplifier tube cuts off when there is only needle scratch etc.

The foregoing, however is not the only avenue of benefit derived from the principle of expanding, as it can also be used to give almost any desired control over the curve of an amplifying circuit.

If a heavy low note response is desired, a filter network calculated to split the signal at the highest frequency it is desired to boost. Now the low frequency side of the network is fed to the expander and the high frequency is fed to a straight voltage amplifier.

The output of the two channels is then fed together to the main final amplifier, keeping phase relationships in mind of course. Fig 2 is a filter network with a wide range of adjustment.

FIG 1  
EXTRACT  
A.W.A.  
HANDBOOK  
EXPANDED  
CIRCUIT

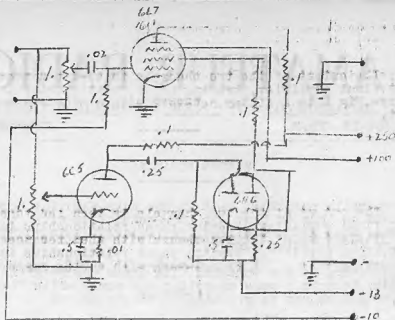
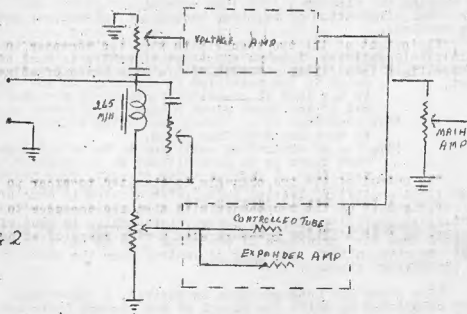


FIG 2



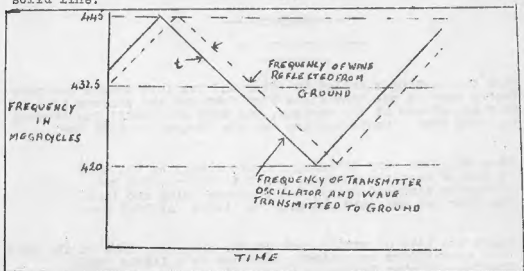
# ALTITUDE BY RADIO

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Undoubtedly two of the most progressive sciences at the present time are radio and aviation. As all our readers are interested in the first, and most, we think, in the second, it would seem that any piece of apparatus common to both should be of considerable interest. Such a piece of apparatus is the radio altimeter.

The apparatus consists of a simple UHF oscillator, a corresponding receiver and a common power unit installed out of the way in the radio compartment and remotely controlled by the pilot. Under the plane are two small T-shaped antennae in separate streamlined, dielectric housings; one for transmitting and the other for receiving. They are dipoles, each a foot long and set about six inches away from the wing. In front of the pilot, in a standard instrument case, is an indicator calibrated in feet. A small switch on the instrument panel puts the altimeter in operation and its operation is then automatic, continuous and practically instantaneous.

This is the way it works: The transmitter frequency is rapidly "wobbled" up and down, 60 times per second by a motor driven modulator consisting of a small rotating variable condenser. It is so arranged that the frequency change produced is linear. If we plot the frequency variation on a graph, we get a straight line saw-tooth pattern, as shown in the diagram in solid line.



Each complete 'tooth' represents the change of frequency from 420 to 445 and back to 420 mcs, taking place in 1/60 second.

That signal is directed towards the ground by one of the two antennae underneath the wing, with the wing acting as the reflector. When it reaches the ground it is reflected back into space and is picked up by the other antenna and fed to the receiver.

Now if we plot the received signal on the same graph as the transmitted signal, it would obviously have the same straight line saw-tooth pattern, but it will take place a little later; In other words the pattern of the received signal will be shifted in time.

The amount of that shift shows how long it took the waves to travel from the plane to the ground and back again. If we can measure the amount of the shift, we know our altitude; because radio waves propagate at a constant speed. We can measure the amount of the shift at any instant, by measuring the instantaneous difference between the transmitted and the received frequencies.

A portion of the transmitted signal is fed to a special radio tube, where it is mixed with the received wave; in other words we "beat" the received wave with the transmitted wave. The difference between the two frequencies, constant for a given height sets up an interference in the tube, and the greater the frequency difference, the greater the interference. The current thus produced, proportional to the amount of interference, moves the pointer of the radio altimeter--an ordinary milliammeter calibrated in feet.

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#### THE FAITHFUL FEW

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When the meeting's called to order and you look around the room You're sure to see some faces that from out the shadows loom. They are always at the meeting, and they stay until its through The ones that I would mention are the Always Faithful Few.

They fill the many offices, and are always on the spot No matter what the weather, though it maybe awful hot; It may be dark and rainy, but they are tried and true- The Ones you can rely on- are the Always Faithful Few.

There are lots of worthy members who will come when in the mood When everythings convenient, they can do a little good; They're a factor in the meeting, and are necessary too- But the Ones who Never Fail Us are the ALWAYS FAITHFUL FEW.

(An extract from "Ham Chatter" Div 5 S. A. A.R.R.L.)

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## A HANDY GENERAL PURPOSE OSCILLATOR

(From an article in Radiotronics)

The general purpose oscillator described is very simple to construct and tests have shown that satisfactory output can be obtained on any frequency between 200 cps and 24 Mc with only coil changes necessary.

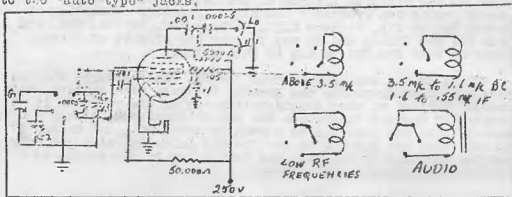
The oscillator can be used for a variety of purposes, among those for which this oscillator has been used is code practice and set line-up in conjunction with a magic eye tube which has its grid clipped onto the AVC line and so gives indication of maximum sensitivity. The oscillator has also been used to provide a beat signal for code reception on an ordinary broadcast receiver, and the writer intends to try it as a BFO for use on the Ham bands if transmitting licences are restored in post-war days.

To give good coverage on all bands and yet a certain amount of bandwidth on the high frequencies a three gang condenser was arranged so that by plugging in the appropriate coil, it connected the gangs in parallel, singly or in series with an .0005 mfd fixed condenser.

The coils were all arranged to plug into a five pin socket as a number of five pin 'Pilot' formers of 1 1/2" diameter have come to be available. No coil data is given here as most amateurs have coil data for various size coil formers.

Coverage on the broadcast band is obtained by using a single section of the gang and an old broadcast band coil. For IF coverage an old IF winding was mounted inside one of the formers, again only one section of the gang was used. On audio ranges, all the gangs were connected in parallel and one winding of an old (baby type) speaker transformer, or audio transformer plugged in.

As the main components are only tube, condenser and coil it is a simple matter to arrange a satisfactory layout. To cater for either high or low level output from the unit a pair of condensers were connected in series and two leads taken from them to two "auto type" jacks.



ANNUAL REPORT  
WIRELESS INSTITUTE OF AUSTRALIA, NEW SOUTH WALES  
DIVISION

To be presented at  
33rd Annual General Meeting--Thursday 18th February  
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Gentlemen:--

Your Council take pleasure in placing before you the 33rd annual report of the Wireless Institute of Australia, New South Wales Division, and it is quite safe to say that, in spite of the fact that the ban on transmissions by Experimenters has been in force for over three years now, Divisional activities have never been greater, and the year 1942 will go down in history as one of the most outstanding periods in the annals of the Division.

Since the outbreak of war your Council has been untiring in its efforts to bring under notice of the authorities the value of the Amateur and his equipment in the event of an emergency. Several schemes were submitted at various times but as with early promises of success some insurmountable difficulty would crop up in the later stages of negotiation, with the result that permission was withheld by the powers that be. With the entry of Japan into the war the possibility of a breakdown of ordinary means of communication was more fully realised by both the Institute and other bodies. At a Council meeting held in December 1941 it was decided that the State War Effort Co-Ordination Committee be approached and details of an Emergency Communication network be placed before them. The Chairman, Mr R.A. Fiddle VK2RA was granted plenary powers to conduct negotiations. How well 2RA carried out his duties may be gathered from the fact that after several months permission was finally granted by the Department of the Navy on the 14th July 1942 for the formation of the network. 2RA's first efforts were directed towards convincing the S.W.E.C.C. of the value of the network and at first that body was only mildly sympathetic, but a chain of circumstances rapidly changed their views, and they supported the scheme wholeheartedly. Then the real job started, namely convincing the "Silent Service" that the Network would be of value in emergency. This was another long and heartbreaking job but at last this obstacle was surmounted and Australia, through the efforts of the New South Wales Division of the Wireless Institute of Australia backed by the S.W.E.C.C. was the first country in the world to have its Amateurs Transmitters recognised and given a place in the Civilian Defence of the Motherland. With the necessary permission granted a Technical Committee consisting of Messrs Bonnet 2VA, Dickson 2AFB, McIlrea 2UV, Fiddle 2RA, and Ryan ETI was formed and it was through the efforts of these amateurs that the ECN is now in full swing.

Acting on the suggestion from Federal Headquarters, the possibility of amalgamating the Monthly Bulletin with Amateur Radio was the subject of some consideration during the year and it was eventually decided to combine the two publications. Although this amalgamation has resulted in a much improved official organ, it is felt that the passing of the Monthly Bulletin, although only for the duration of the war, has left a gap in the Institute

framework in 1930. With the amalgamation of the publications it was decided to reduce the grades of Membership to two namely, Full, with annual subscription of 10/6 per annum; and Service, subscription 7/6 per annum.

The Division wholeheartedly supported the Wireless Institute of Australia Prisoner's of War Fund and to-date a total of \$16 has been realised. Through the courtesy of Messrs Bennett and Road a Picture Night was held in lieu of the October meeting and the sum of \$3 was realised. Unfortunately the elements were unkind on this night otherwise a much larger sum would have been realised.

With reference to the Custody of Experimenters Containers all Members were circularised and informed of several modifications agreed to by the Chief Radio Inspector, the principal being an opportunity to reach any container if desired. Although a number of amateurs resented this Regulation this Division supported the views expressed by the Federal Executive, namely, that if the equipment was out of the possession of the owner no inferences could be made that it was a potential danger to the country, as had been done by a certain type of newspaper in the past.

In an endeavour to make certain that Australia should keep abreast with overseas moves regarding the post war position of Experimental Radio steps were taken to ascertain what plans had been made by the R.S.G.B and the A.R.R.U. These Societies were to be informed of the steps taken in this country with particular reference to the Federal Census and the Emergency Communication Network.

The Federal Executive has been located in this State for over twelve months now and a report of their activities appeared in the December issue of 'Amateur Radio'. The personnel of the Executive is as follows:- President R. Middle 2RA; vice-president, H. Peterson 2HP; Secretary W.G. Ryan 2TI; Councillors W.J. McElrea 2UV and N. Cough 2NG. These are the original Members of the Executive who were elected in August 1941, with the exception of Mr N. Cough who filled the vacancy caused by Mr A. Josephine resigning upon joining the services. Although this body was elected in August of that year, it did not commence to function until October.

Due to the war situation no Council election was held in 1941, the Councillors then in office being instructed to carry on, but due to the increase in membership since the formation of the Emergency Communication Network, Councillors now feel that these newcomers should be given the opportunity of expressing their opinions as to who should govern the Institute, and accordingly nomination papers have been sent out to all Members.

Quite a number of amateurs on service have been present at General Meetings and upon one occasion all States were represented with the exception of VKG. In addition to VK's quite a number of "W" hams including W6PPT, W6TJ, W6PTZ, W6WTC, and W6ERP have been entertained by various members.



Oldtimers will regret to hear of the death of C.T. Bartholomew one of the signatories to the Articles of Memorandum of Association of the Division and a Life Member of the Institute. Another Oldtimer to pass on during the year was G20D. G20D and A20H participated in the first two way contacts between England and Australia.

Membership has maintained a steady increase, no less than 73 new members being elected during the year whilst resignations were practically negligible. At the present time the total membership is in excess of the peak figures of peak years. This continued increase augurs well for the future and proves that the average amateur is alive to the fact that it is essential that an active organisation be maintained at all times.

This, Gentlemen, covers the major activities of the Division for 1942. Let us hope that 1943 will bring the day nearer to the time for the lifting of the ban on transmissions.

R.A. Middle... Chairman  
W.C. Ryan..... Secretary.

# WIRELESS INSTITUTE OF AUSTRALIA. NEW SOUTH WALES DIVISION

## Statement of Receipts and payments for the twelve months ended 31-12-42

To Balance 1-1-42	£4. 5. 5	By Printing & Stationery	£25.13.4
Subscriptions	79. 7. 7	Postage	15. 3. 3
Book Sales	3.12. 0	Rent	5. 7. 6
Badges	6. 6	Exchange	13. 8
N.O.W. Fund	14.17. 0	Book purchases	31. 0. 4
Exchange	2. 6	General Expenses	6. 0. 0
Refund ECH Exp.	22.14. 8	Balance	41. 7. 2
	£125. 5. 7		£125. 5. 7

I hereby certify that I have audited the books and vouchers of the W.I.A. N.S.W. Division and have found them correct and the above Statement is in accordance therewith.

H. Brooks, F.C.A (Aust)

## EMERGENCY COMMUNICATION NETWORK

Phew ! Boy, what a day ! Sunday January 17th saw practically the whole of the network stations on the air. Commencing at 10.30 am and finishing at 5.45pm the band was reminiscent of 40 metres any Sunday afternoon in the good old days. In addition "A" Network Control Station was in communication with two mobile units.

On other test days there have been two or three stations on each afternoon and it was anticipated that the day would come when every station in the network would be crying out for a Test

at one and the same time. It arrived with a vengeance.

In order to bring country BCH reservists into the picture it was arranged that they should be listed for VL2JA on this day also, and to date numerous reports have been received reporting reception in various country centres. The information contained in these reports will be very helpful when the time comes for the extension of the Network to areas outside Sydney and Metropolitan districts.

VL2JH and the boys down there will soon have to look to their laurels. In last issue details were given of the splendid job carried out by Ern Hodgkins and Co; but the rest of the gang are close on your trail, Boys.

VL2JI has replaced his burnt out mike transformer, has obtained a new mike from a very close friend of his, and using only a temporary aerial is putting in a wallowing signal at Control. When that beam goes up its sure going to block up the receiver---and you should hear the quality. When one remembers the things ZHP had to say about fono hounds once upon a time--well, well, only goes to show what a great job a CW man can make of fono.

VL2JK is on the air at last and putting in quite an FB signal. 20B who is in charge down there has associated with him 2AHV, 2IA, 2AIU and 2AHV. Many young squirts may not know much about 2AHV, but to oldtimers "Cal" is quite well known having held the presidential reins of the Division over ten years ago. You can't keep a good Ham down. Lionel 20B is also interested in photography but so far has received the offer of 2TI to photograph the modulation envelope from 2JK. Never mind OM once you get the fur off the edges of that signal it'll be something to be proud of.

VL2JF is putting out a nice signal, but unfortunately there is more than one frequency at the present time. Neutralise that 807 boys and then you'll go to town. If you don't you'll probably go into every shortwave receiver around the place!

"Convict 99" Jeff Thompson has also bought a new mike and is putting out an FB signal. Jeff said that he never expected to operate a radio station from a police cell complete with iron bars, concrete floor large padlock and everything. Never mind OM wait until you get the red carpet down. VL2JF will certainly be a glamor station then.

At VL2JC the boys who include 2DI, of RK20 fame, Eric Hugh 2ADK and Phil Cox 2IE are having some difficulty in getting sufficient audio; but never mind it won't be long now and you'll have that transformer.

In answer to many inquiries regarding the "drink" given to one of the operators at Control the label on the bottle said "Tropical Tonic", but I don't believe that label--I think it

came from a chemical laboratory on the outskirts of the City area. Everything I spoke into the mike, the final tank condenser would flash over. Of course there's only half an inch spacing between the plates. Never mind it was a great day.

On the last Sunday in February a full scale exercise will be held, but details will be forwarded later.

-----XXXXXX-----  
CORRESPONDENCE  
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Some little time ago the U.S.V. Division wrote to the ARRL asking that they insert in QST an invitation to any Amateur who was on Service to attend Institute meetings or if his leave did not co-incide, to contact either the Divisional Chairman or Secretary. This request was complied with and the August Issue contained the invitation.

As a result the following letter was received recently and may be considered self explanatory and an appeal is made for as many VK hams as possible to reply to this lonely 'V'. Here is the letter:-

"Secretary Ryan ZTI  
Wireless Institute of Australia,  
Y.M.C.A. Buildings, Pitt St  
Sydney, N.S.W. Australia. FX3305  
VKZTI,

Guadalcanal Island  
British Solomon Islands  
28th October, 1942

Just received a copy of my QST magazine, August issue. I noticed the article to Amateurs of United Nations who may be in your area. I am not hardly close enough to drop in on one of your meetings, but never too far away to write to an amateur, especially a new contact.

I am a PFC in the Marine Corps and I think the heading will speak for itself for what I am doing. Back home I had a 500 watt CW transmitter on 40 metres and used a Hallicrafters Super Sky Rider receiver. I just now found out that our equipment had to be registered, so have taken steps to do so.

I belong to A.R.R.L. and keep in contact with them regularly. W8RTK and myself, W9UZW are located here together. I would be very much pleased to hear from your organisation and a few of the VK boys. Are there any W9's around Sydney now? Please write and QSL if possible.

73's  
PFC Sprague W9UZW

All letters should be addressed as follows:-

P.F.C Zane Sprague W9UZW  
U.S. Marine Corps Unit 900  
C/- Postmaster, San Francisco  
California.

Go to it Fellahs.

-----8888-----

# SLOUGH TITS AND FORAGE CAPS

By VK2YC

-----000000-----

Still the same title, as so far, we have not heard from the Navy as to what cap they prefer. But as the RAN doesn't spend much time living around in port gathering barbeques, I guess it will be a month or so before most of them see "Amateur Radio".. it's one of those time lag circuits. So you chaps in the RAN don't forget that our column is a 'cap' short in its title, and we look to one of you to supply it.

2YC has been trying to fit in a part time holiday (weekends mainly) with the family down at Cronulla so there hasn't been time to come with the business, let alone nose out some dope for the column...so I will have to be forgiven in advance. In any case running the place short handed and being away part time means that when I clean up arrears I will need a real holiday Hi !

By the way have any of our chaps been mentioned as "OW" by the Japs yet. I don't think there are any "OW" names among them.

Can anybody dig me up some news of VK2HL, "Loveless, who appears hamlike, to have been the right chap in the right place up in TIMOR, but who seems to have been singularly neglected when the prize was being handed out...not to mention the medals. Who, but a ham, would think of building a "Ham" transmitter from junk. Any news of him that you VK's have will be appreciated here at 2YC.

Had a good surprise the other night when VK3OF, blow in for a rush visit complete with Petty Officers rig out, with two years service stripes he seemed a far superior person than the "old" 3OF. However, in spite of it all he had to get the tea as the YF was away. Yes, his wife has him trained lovely...it was a slap-up meal, far and away better than I got myself Hi. Frank was in the RAN reserve way back before the war, when he and 3JJ word ten metre funs. At the outbreak he was called up at once and, very much to his disgust has, ever since, been instructing at Flinders. He couldn't even get a trip on a convy. But persistence wins and here he was with a couple of hours to spare in between trains, on his way to join the Australia. I hope he did catch the train (he cut things pretty fine), but as he missed it altogether in VIC he was improving a little in VIS.Hi!

Wilf Harris 2ALF seems to have settled down on the same ship judging from a card I had from him. so Frank will have some company as he knows Wilf from the Depot.

My co-news collector 3RJ who, having moved the family over can now be considered as a New South Welshman (knows a good state) has had a letter from Basil Dale (P/O of course) and once 2XX, 9XX. Basil seems to have ended up this time way out in the V.A. Never Never, but even there one finds VZLW. How are you

Bill, haven't heard of you since the war began, whats the news? Congrats on being "Father" these days, FB, OH. Besides that degree Bill is also F/O so he may have some news he can pass on. Thanks for the dope Basil, CM. One thing you can always be relied upon to tell us where you are....how many other Hams over your way? Dig a bit of news out of them....I'll fix it up for the Bear that will no doubt be necessary to get the news. Hi!

F1 Sargent H.R. Carter VK2HC rang up the other night on his way back to Wagga. I had been wondering just where he had wandered to, but 3RJ who was also wondering "Cleaned him up" on both our behalfs. Did you know that Mr Jones was now a Flying Officer...if he lives long enough I hope he will be higher in the ranks "in time" Hi! Johnny Traill down in VIM somewhere and still not having sent me some promised news is also a F/O these days. I nearly said "doesn't deserve it" but may be all of you wouldn't understand mu "animosity" was entirely due to those lost notes about his sojourn in Malaya.

Oh, do you remember my QRR to Cpt Carruthers V.2TF...well, alas, all wasted...as he doesn't get QST..please somebody lend him one.

From Clarry Castle LAC comes a letter that tells us, as "vo said before, that Amateur Radio does reach the troops. Clarry says he was visiting Cpl Ivor Stafford and mentioned A.R. Low and behold he was able to read both November and December issues and said the news of the Hams, and old ham radio, that now seems so long ago was an FB treat. Which all goes to prove that, as I said, and keep saying, "NEWS" of Hams is "BIG NEWS" to a chap stationed away where he doesn't have City and Suburban telephones to keep him in touch with the chaps. So, once again...don't hoard your news miserly to yourself...send it to Amateur Radio.. where all your fellow hams can get a kick out of reading it too.

Clarry 5KL mentions hitch hiking 50 miles just to have a yarn to Sgt Ray Deane 5RM but simply passes it off as "worth it to have a yarn to one of the boys". And some lazy so and so's won't even write a few lines or use a telephone...Ham Spirit of Now Order??????????.

Up Darwin way and mentioned as having seen 5KL are also LAC W Leonard 3AB and VK2AII Sgt Claburne. Any more news of these two, Clarry??.

Still further north we find that Bob Cunningham VK3EL, now Wing Commander, is OC Signals in that area. Nice going Bob, but what about a note from you occasionally, you must see quite a few of the boys from time to time.

Bill Gromow VK3WG has recently been promoted to Squadron Leader, and seems to spend much of his time running all over the place. VK3TE Stan Dixon Corporal please, after visiting quite a few of the states is now stationed somewhere in VK6.

(Continued on page 14)

VICTORIAN DIVISION

Somewhat notes of the Victorian Division seem to grow smaller and smaller, as more and more of the boys go on service. Notes seem to consist of what happens among the Council members and what happens at the Magazine printing. As regards what does actually happen at the latter, well I'm afraid that I just couldn't publish it sometimes. If I did publish what did happen at the last printing, well the issue which contained the report would be worth pounds and pounds. Now don't start guessing what did happen because you are likely to get a long way ahead of me.. TOO bad isn't it.

One thing which did happen was that Herb (Romeo) Stevens 3JO usually brings Charlie (Screwdriver) Quin 3WQ along to the printing....well Herb dumped Charlie about five blocks from the place of printing and disappeared for about three-quarters of an hour. To make matters worse he has maintained a strict silence ever since, and endeavours to change the subject every time it's brought up... Now wouldn't you think just what we think???

Bob Anderson 3WY still manages to cram the writing of articles for the magazine into his little spare time. He has had several articles on various subjects promised to him, and he is hoping that it will not take too long for them to come to light.

Some members of the instructional staff of the Melbourne Technical College arrived along at the last VKB meeting, and have promised a lecture or two, so chaps if you want to hear some good lectures the best thing you can do is to attend the next few meetings of the Division. The next meeting will be held at the rooms 191 Queen St Melbourne on the first Tuesday in February which will be the Second of February.

We wish to warn everyone never to ask 3PU for a light because its odds on that you will have to go through every match in the box. 'Tis reported that he always puts the dead match back in the box along with the live ones. Now I wonder just how he got that habit??

Alec Clyne 3VX is looking for someone who can supply him with the dope for a special type of UHF directional antenna. He saw it in some magazine, and its shaped somewhat like a speaker horn, but instead of having a speaker unit it has a radiator where the speaker should be. Can anyone help.

It's reported that Ivor Morgan 3DH is working eight days this week. Myself (3HX) would like to know what the formula is for stretching seven into eight, because I'd like to try it.

Bert Burdakin reports that the potatoes planted per lunar influences turned out real fine business (that's according to his own say so, we haven't seen them yet). Bert has been renamed "Spruds"...He doesn't know that until he reads this !!

### Slouch Hats and Forage Caps

Corporal Ron Higgenbotham 3RN turned up at a recent VK3 meeting. He was then still associating with the "leones". 'Twas noticed that at this particular meeting he went into conference with the RAAF, the subject seemed to be antennae.. I guess that by this time Ron effected considerable improvements in the aerial system.

And that is that for this month...Remember contact 3RJ RAAF. Pt Piper or 2YC...Jim Corbin. 78 Maloney St, Eastlakes Phone MV 1092. for news for YOUR column.

-----seeeee-----

### OUR PROBLEM---IS IT YOURS?

-----

At the last meeting of the VK3 Division during a general discussion, one of the members asked a question. It was this:-

In standard text books the impedance at the centre of an half wave antenna is 72 ohms . To feed this using a 600 ohm line and a 'Q' section transformer the required surge impedance for the matching section is

$$Z_0 = \sqrt{Z_1 Z_2} \quad \text{which is } 208 \text{ ohms.}$$

It is claimed that this will give a perfect match.

Our query is this:- Why should 208 ohms give a match between the 600 ohm line and the 72 ohms of the antenna.?

If you can offer any solution send it along so that we can publish it in this magazine. If you have any other problem send that along and see what others have to say about it.

-----XXXX-----

STOP PRESS. And then there is the story about the youngest member of the VK3 Council who, walking along the street, was hailed by a child of tender years As "Daddy". We wonder.

**THE WIRELESS INSTITUTE  
OF AUSTRALIA  
VICTORIAN DIVISION**

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The Division meets on the Third Thursday of each month at Y.M.C.A. Buildings, Pitt Street, Sydney, and an invitation is accorded to all Amateurs to be present.

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